

What is claimed is:

1. A system, adapted for use in a communications network, for evaluating at least one communication link between a transmitting node and a receiving node in the communications network, the system comprising:

a processor, adapted to assign a link quality value to said communication link based on a transmit power level (TPL) value at which said data packet was transmitted by said transmitting node, a received sensitivity (RS) value of said receiving node receiving said data packet, and a receive signal strength indication (RSSI) value provided by said network.

2. A system as claimed in claim 1, further comprising:

a packet analyzer, adapted to examine a content of a data packet being sent between said two nodes to determine said TPL.

3. A system as claimed in claim 1, wherein:

said processor is adapted to receive said RSSI value from a physical layer of said communications network.

4. A system as claimed in claim 1, wherein:

said processor is adapted to determine whether additional data packets are to be sent by said transmitting node to said receiving node via said communication link based on said link quality value.

5. A system as claimed in claim 1, wherein:

said network includes an ad-hoc wireless communications network; and
said processor is adapted to assign said link quality value to said communication link between said transmitting and receiving nodes which are each wireless nodes in said ad-hoc wireless communications network.

6. A system as claimed in claim 1, wherein:

said network includes an 802.11 network; and

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said processor is adapted to assign said link quality value to said communication link between said transmitting and receiving nodes which are each wireless 802.11 nodes in said 802.11 network.

7. A system as claimed in claim 1, wherein:

said processor calculates said link quality value as a link quality ratio (LQR) represented by the equation $LQR = 1 - (TPL - RSSI)/(TPL - RS)$.

8. A system as claimed in claim 1, wherein:

said processor is adapted to assign a respective said link quality value to each respective one of said communication links between said transmitting and receiving nodes.

9. A system as claimed in claim 8, wherein:

said processor is adapted to select one of said communication links as a selected route via which additional data packets are to be sent by said transmitting node to said receiving node via said communication link based on said link quality value.

10. A system as claimed in claim 9, wherein:

said processor selects as said selected route one of said communications links having the highest link quality value.

11. A system as claimed in claim 1, wherein:

said processor assigns said link quality value on a per packet basis.

12. A method for evaluating at least one communication link between a transmitting node and a receiving node in a communications network, the method comprising:

assigning a link quality value to said communication link based on a transmit power level (TPL) value at which said data packet was transmitted by said transmitting node, a received sensitivity (RS) value of said receiving node receiving said data packet, and a receive signal strength indication (RSSI) value provided by said network.

13. A method as claimed in claim 12, further comprising:
examining a content of a data packet being sent between said two nodes to determine
said TPL.

14. A method as claimed in claim 12, further comprising:
receiving said RSSI value from a physical layer of said communications network.

15. A method as claimed in claim 12, further comprising:
determining whether additional data packets are to be sent by said transmitting node
to said receiving node via said communication link based on said link quality value.

16. A method as claimed in claim 12, wherein:
said network includes an ad-hoc wireless communications network; and
said assigning assigns said link quality value to said communication link between said
transmitting and receiving nodes which are each wireless nodes in said ad-hoc wireless
communications network.

17. A method as claimed in claim 12, wherein:
said network includes an 802.11 network; and
said assigning assigns said link quality value to said communication link between said
transmitting and receiving nodes which are each wireless 802.11 nodes in said 802.11
network.

18. A method as claimed in claim 12, wherein:
said assigning calculates said link quality value as a link quality ratio (LQR)
represented by the equation $LQR = 1 - (TPL - RSSI)/(TPL - RS)$.

19. A method as claimed in claim 12, wherein:
said assigning assigns a respective said link quality value to each respective one of
said communication links between said transmitting and receiving nodes.

20. A method as claimed in claim 19, further comprising:

selecting one of said communication links as a selected route via which additional data packets are to be sent by said transmitting node to said receiving node via said communication link based on said link quality value.

21. A method as claimed in claim 20, wherein:

said selecting selects as said selected route one of said communications links having the highest link quality value.

22. A method as claimed in claim 12, wherein:

said assigning assigns said link quality value on a per packet basis.

23. A computer-readable medium of instructions, adapted for use with a communications network for evaluating at least one communication link between a transmitting node and a receiving node in the communications network, the instructions comprising:

a first set of instructions, adapted to assign a link quality value to said communication link based on a transmit power level (TPL) value at which said data packet was transmitted by said transmitting node, a received sensitivity (RS) value of said receiving node receiving said data packet, and a receive signal strength indication (RSSI) value provided by said network.

24. A computer-readable medium of instructions as claimed in claim 23, further comprising:

a second set of instructions, adapted to examine a content of a data packet being sent between said two nodes to determine said TPL.

25. A computer-readable medium of instructions as claimed in claim 23, further comprising:

a third set of instructions, adapted to obtain said RSSI value from a physical layer of said communications network.

26. A computer-readable medium of instructions as claimed in claim 23, further comprising:

a fourth set of instructions, adapted to determine whether additional data packets are to be sent by said transmitting node to said receiving node via said communication link based on said link quality value.

27. A computer-readable medium of instructions as claimed in claim 23, wherein: said network includes an ad-hoc wireless communications network; and

said first set of instructions assigns said link quality value to said communication link between said transmitting and receiving nodes which are each wireless nodes in said ad-hoc wireless communications network.

28. A computer-readable medium of instructions as claimed in claim 23, wherein: said network includes an 802.11 network; and

said first set of instructions assigns said link quality value to said communication link between said transmitting and receiving nodes which are each wireless 802.11 nodes in said 802.11 network.

29. A computer-readable medium of instructions as claimed in claim 23, wherein:

said first set of instructions calculates said link quality value as a link quality ratio (LQR) represented by the equation $LQR = 1 - (TPL - RSSI)/(TPL - RS)$.

30. A computer-readable medium of instructions as claimed in claim 23, wherein:

said first set of instructions assigns a respective said link quality value to each respective one of said communication links between said transmitting and receiving nodes.

31. A computer-readable medium of instructions as claimed in claim 30, further comprising:

a fifth set of instructions, adapted to select one of said communication links as a selected route via which additional data packets are to be sent by said transmitting node to said receiving node via said communication link based on said link quality value.

32. A computer-readable medium of instructions as claimed in claim 31, wherein:
said fifth set of instructions selects as said selected route one of said communications
links having the highest link quality value.

33. A computer-readable medium of instructions as claimed in claim 23, wherein:
said first set of instructions assigns said link quality value on a per packet basis.

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